

IN THE CLAIMS:

Please substitute the following listing of claims for the previous listing of claims:

1. (Cancelled)
2. (Previously presented) An apparatus for producing aerosolized medicament, the apparatus comprising:
  - a reservoir containing a powder medicament to be aerosolized, the powder medicament comprising a protein or polypeptide; and
  - a chamber comprising first and second air inlets and a mouthpiece, wherein the first and second air inlets are oriented so that gas may flow in a vortical flow path in the chamber and may flow out of the chamber through the mouthpiece and wherein the flow of gas aerosolizes the powder medicament,
  - wherein at least 40 percent by weight of the powder medicament is suspended by the gas in the chamber for delivery through the mouthpiece.
3. (Previously presented) An apparatus according to claim 2 wherein the chamber volume is from 100 ml to 750 ml.
4. (Previously presented) An apparatus according to claim 2 further comprising a source of compressed gas, wherein the compressed gas may be released from the source of compressed gas to cause the flow of gas to aerosolize the medicament.
5. (Previously presented) An apparatus according to claim 2 wherein the chamber is adapted to contain the aerosolized medicament for subsequent delivery to a patient during a patient's inhalation.
6. (Previously presented) An apparatus according to claim 2 wherein the chamber is cylindrical.

7. (Previously presented) An apparatus according to claim 2 wherein the aerosolized medicament comprises small particles of medicament, the particles being sized to be deliverable to the alveolar regions of the lungs of a patient.

8. (Previously presented) An apparatus according to claim 7 wherein the particles are predominantly 1 to 5 micrometers in diameter.

9. (Previously presented) An apparatus according to claim 2 wherein at least 55 percent by weight of the powder medicament is suspended by the gas in the chamber for delivery through the mouthpiece.

10. (Previously presented) An apparatus according to claim 2 wherein at least 70 percent by weight of the powder medicament is suspended by the gas in the chamber for delivery through the mouthpiece.

11. (Previously presented) An apparatus for producing aerosolized medicament, the apparatus comprising:

a reservoir containing a powder medicament to be aerosolized, the powder medicament comprising a protein or polypeptide; and

a chamber comprising first and second air inlets and a mouthpiece, wherein the first and second air inlets are oriented so that gas may flow in a vortical flow path in the chamber and may flow out of the chamber through the mouthpiece and wherein the flow of gas aerosolizes the powder medicament,

wherein the volume of the aerosolized medicament is from 9.24 percent to 21.5 percent of the volume of the chamber.

12. (Previously presented) An apparatus according to claim 11 wherein the chamber volume is from 100 ml to 750 ml.

13. (Previously presented) An apparatus according to claim 11 further comprising a source of compressed gas, wherein the compressed gas may be released from the source of compressed gas to cause the flow of gas to aerosolize the medicament.

14. (Previously presented) An apparatus according to claim 11 wherein the chamber is adapted to contain the aerosolized medicament for subsequent delivery to a patient during a patient's inhalation.

15. (Previously presented) An apparatus according to claim 11 wherein the chamber is cylindrical.

16. (Previously presented) An apparatus according to claim 11 wherein the aerosolized medicament comprises small particles of medicament, the particles being sized to be deliverable to the alveolar regions of the lungs of a patient.

17. (Previously presented) An apparatus according to claim 16 wherein the particles are predominantly 1 to 5 micrometers in diameter.

18. (Previously presented) An apparatus according to claim 11 wherein at least 40 percent by weight of the powder medicament is suspended by the gas in the chamber for delivery through the mouthpiece.

19. (Previously presented) An apparatus according to claim 11 wherein at least 70 percent by weight of the powder medicament is suspended by the gas in the chamber for delivery through the mouthpiece.

20. (Previously presented) An apparatus as in claim 2 wherein at least one of the inlets is oriented tangentially in the chamber.

21. (Previously presented) An apparatus as in claim 2 wherein one of the inlets is not oriented tangentially in the chamber.

22. (Previously presented) An apparatus as in claim 2 wherein the mouthpiece is oriented tangentially in the chamber.

23. (Previously presented) An apparatus as in claim 11 wherein at least one of the inlets is oriented tangentially in the chamber.

24. (Previously presented) An apparatus as in claim 11 wherein one of the inlets is not oriented tangentially in the chamber.

25. (Previously presented) An apparatus as in claim 11 wherein the mouthpiece is oriented tangentially in the chamber.

26. (Previously presented) An apparatus for producing aerosolized medicament, the apparatus comprising:

a reservoir containing a powder medicament to be aerosolized, the powder medicament comprising a systemically therapeutic protein or polypeptide; and

a chamber comprising an air inlet and a mouthpiece, wherein the air inlet is oriented so that gas may flow in a vortical flow path in the chamber and may flow out of the chamber through the mouthpiece and wherein the flow of gas aerosolizes the powder medicament,

wherein at least 40 percent by weight of the powder medicament is suspended by the gas in the chamber for delivery through the mouthpiece.

27. (Previously presented) An apparatus according to claim 26 wherein the volume of the aerosolized medicament is from 9.24 percent to 21.5 percent of the volume of the chamber.

28. (Previously presented) An apparatus according to claim 26 wherein the chamber volume is from 100 ml to 750 ml.

29. (Previously presented) An apparatus according to claim 26 further comprising a source of compressed gas, wherein the compressed gas may be released from the source of compressed gas to cause the flow of gas to aerosolize the medicament.

30. (Previously presented) An apparatus according to claim 26 wherein the chamber is adapted to contain the aerosolized medicament for subsequent delivery to a patient during a patient's inhalation.

31. (Previously presented) An apparatus according to claim 26 wherein the aerosolized medicament comprises small particles of medicament, the particles being sized to be deliverable to the alveolar regions of the lungs of a patient.

32. (Previously presented) An apparatus according to claim 31 wherein the particles are predominantly 1 to 5 micrometers in diameter.

33. (Previously presented) An apparatus according to claim 26 wherein at least 70 percent by weight of the powder medicament is suspended by the gas in the chamber for delivery through the mouthpiece.

34. (Previously presented) An apparatus as in claim 26 wherein the air inlet is oriented tangentially in the chamber.

35. (Previously presented) An apparatus for producing aerosolized medicament, the apparatus comprising:

a reservoir containing a powder medicament to be aerosolized, the powder medicament comprising a protein or polypeptide; and

a chamber comprising a tangentially oriented air inlet and a non-tangentially oriented air inlet and a mouthpiece, wherein gas may flow into the chamber through the air inlets and may flow out of the chamber through the mouthpiece and wherein the flow of gas aerosolizes the powder medicament,

wherein at least 40 percent by weight of the powder medicament is suspended by the gas in the chamber for delivery through the mouthpiece.

36. (Previously presented) An apparatus according to claim 35 wherein the volume of the aerosolized medicament is from 9.24 percent to 21.5 percent of the volume of the chamber.

37. (Previously presented) An apparatus according to claim 35 wherein the chamber volume is from 100 ml to 750 ml.

38. (Previously presented) An apparatus according to claim 35 further comprising a source of compressed gas, wherein the compressed gas may be released from the source of compressed gas to cause the flow of gas to aerosolize the medicament.

39. (Previously presented) An apparatus according to claim 25 wherein the chamber is adapted to contain the aerosolized medicament for subsequent delivery to a patient during a patient's inhalation.